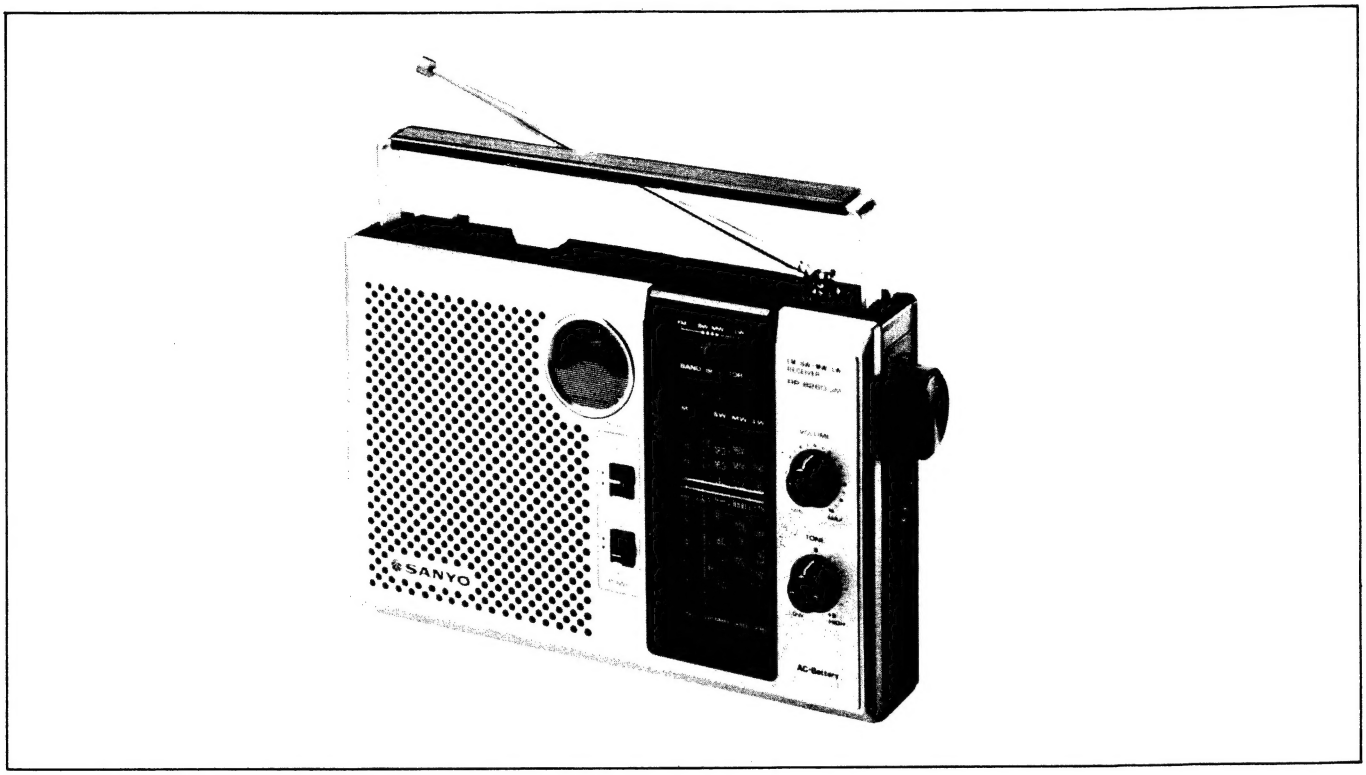
SERVICE MANUAL

PORTABLE RADIO

SANYO

RP 8260UM



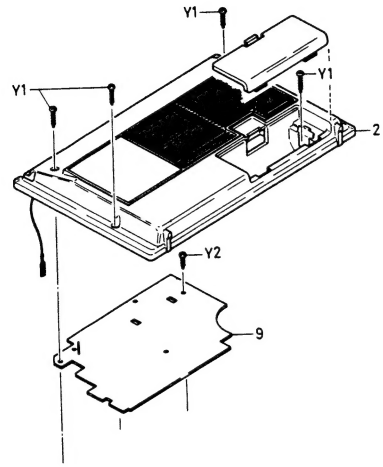
SPECIFICATIONS

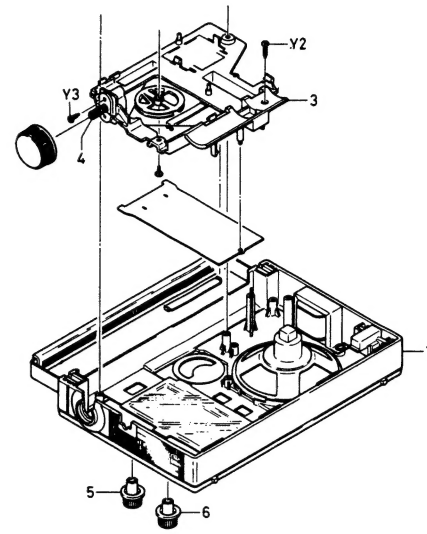
Frequency ranges:	LW 150 – 285 kHz	Output power:	Maximam 1300 mW
	MW 525 – 1605 kHz		Undistorted 800 mW
	SW 5.95 – 18.0 MHz	Transistor:	11
	FM 87.5 – 108 MHz	Diode:	16
Intermediate:	LW/MW/SW 470 kHz	Power source:	DC 4.5 for 1.5V "UM-1" Size x 3
	FM 10.7 MHz		AC 120/220V, 50/60 Hz
Sensitivity:	LW 400μV/m	Current consumption:	No signal 30 mA
(for 50mW output)	MW 100μV/m	Speaker:	92 mm, 8 ohm
	SW 25μV/m	Dimensions:	257mm(W) x 162mm(H) x 75mm(D)
	FM 3μV		Approx.
		Weight	Approx. 1.5 kg

NOTE: Specifications are subject to change without notice.

CABINET & CHASSIS DISSASSEMBLY

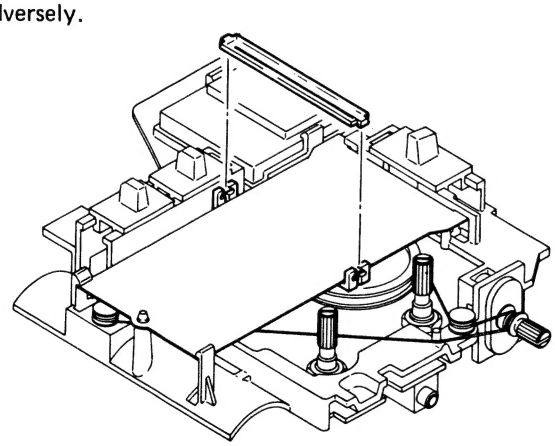
1. Remove the four screws Y1 (tapping screw pan head 3 x 20 mm) attaching the BACK LID (2) to the CABINET (1).
2. Unplug the antenna cord from the antenna socket (9) on the Printed Çircuit Board to separate the BACK LID (2).
3. Detach the VOLUME KNOB (5) and the TONE KNOB (6).
4. Remove the two screws Y2 (tapping screw pan head 16 mm) attaching the CHASSIS (3) to the CABINET (1).
   The CHASSIS with P.C.Board can be separated.
5. Detach the POINTER (7) and DIAL SCALE (8).
6. Remove the one screw Y3 (tapping screw pan head 3 x 10 mm) for disassembling the TUNIG SHAFT ASSEMBLY (4) from the CHASSIS (3).

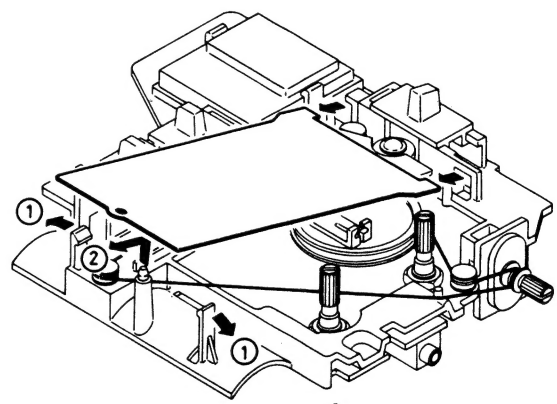


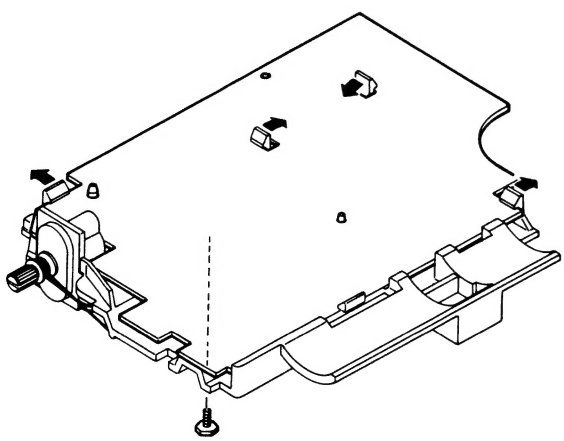


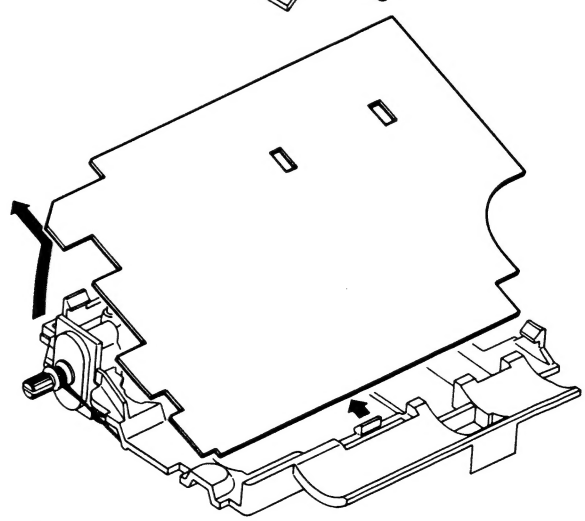
P.C.B. DISASSEMBLY

Before removing the screws from the dial drum, secure it with string so that the dial rope will not come off adversely.



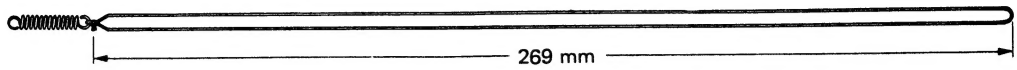


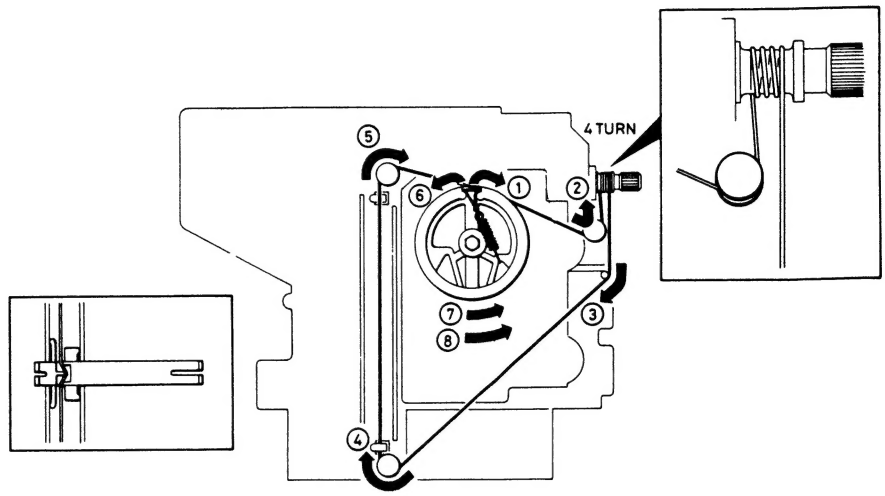




DIAL CORD STRINGING

1. Prepare dial cord and tension spring as shown bellow.
2. First place the drum in such a position as it provides a minimum capacitance for tuning gang.
   Hook a free end of the spring to the drum and thread the cord as shown by starting from No. 1 through No. 8.
   Please give if four-turns around a tuning shaft at No. 2.
   Pass it through No. 3 & 4, and hold it temporarily at No. 5.
   Fit the other end No. 8 of the cord two turns in the arrow direction around the drum and finally.

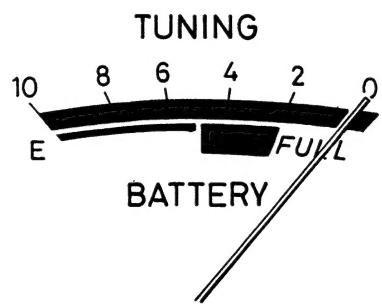




METER ADJUSTMENT SPECIFICATION

1. Adjustment of battery meter

1-1. Set band selector to MW.
1-2. Adjust with no signal at "zero" input.
1-3. Turn variable resistor R330 (2KB) to adjust needle to full scale (see sketch).



1-5. After the adjustment, make sure the needle registers in the green range at 3.2 V DC.

2. Checking of tuning meter

2-1. Set supply voltage to 4.5 V DC.
2-2. Set band selector to FM, and tune in to 98 MHz, 40 dB by means of signal generator.
2-3. Make sure the maximum meter swing coincides with the maximum output.
2-4. If out of agreement, develop the output to maximum and adjust the meter swing to the maximum by turning the IF Transformer T303.
2-5. In case an extreme deviation is found at item 2-3, readjust V-curve and S-curve.

ALIGNMENT PROCEDURES

GENERAL ALIGNMENT CONDITIONS

1. The position of volume control is at maximum position.
2. Signal input must be kept as low as possible to avoid overload.
3. Use an output meter of the highest possible sensitivity.
4. Standard modulation is 400Hz at 30% amplitude (for AM) and 22.5 kHz deviation (for FM).

LW BAND – Band selector switch in LW position

Step	Connection of Signal Generator	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Loop Antenna	470 kHz	Lowest End	Across Speaker	IFT T305, 306, 307	Adjust for Maximum
2	Same	145 kHz	Lowest End	Same	Osc. Coil L112	Same
3	Same	295 kHz	Highest End	Same	Osc. Trim CT 104	Same
4	Same	160 kHz	160 kHz	Same	Ant. Coil L109b	Same
5	Same	280 kHz	280 kHz	Same	Ant. Trim CT102	Same

Repeat steps 2 thru 5 to obtain maximum sensitivity.

MW BAND – Band selector switch in MW position

Step	Connection of Signal Generator	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Same	505 kHz	Lowest End	Same	Osc. Coil L111	Same
2	Same	1650 kHz	Highest End	Same	Osc. Trim VCT4	Same
3	Same	600 kHz	600 kHz	Same	Ant. coil L109a	Same
4	Same	1400 kHz	1400 kHz	Same	Ant. Trim VCT3	Same

Repeat steps 1 thru 4 to obtain maximum sensitivity.

SW BAND – Band selector switch in SW position

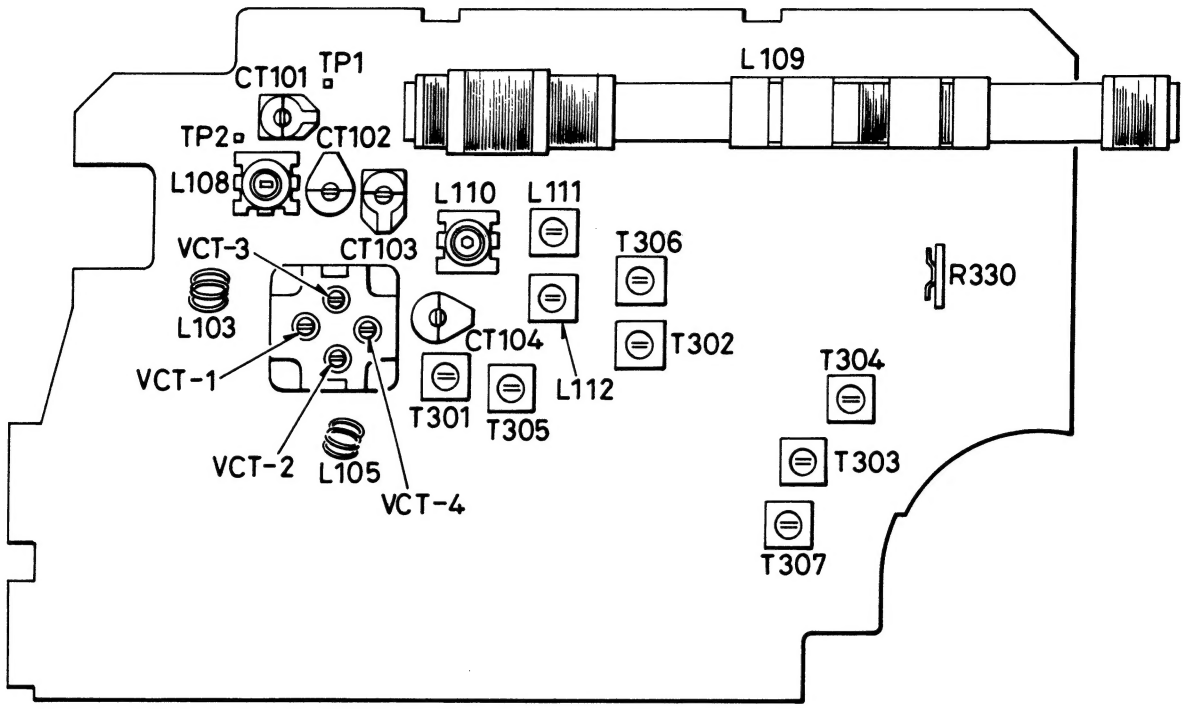
Step	Connection of Signal Generator	Input Signal Frequency	Dial Setting of Radio	Connection of Output Meter	Adjust	Remarks
1	Same	5.8 MHz	Lowest End	Same	Osc. Coil L110	Same
2	Same	19 MHz	Lowest End	Same	Osc. Trim CT103	Same
3	Same	6.5 MHz	6.5 MHz	Same	Ant. coil L108	Same
4	Same	17.5 MHz	17.5 MHz	Same	Ant. Trim CT101	Same

Repeat steps 1 thru 4 to obtain maximum sensitivity.

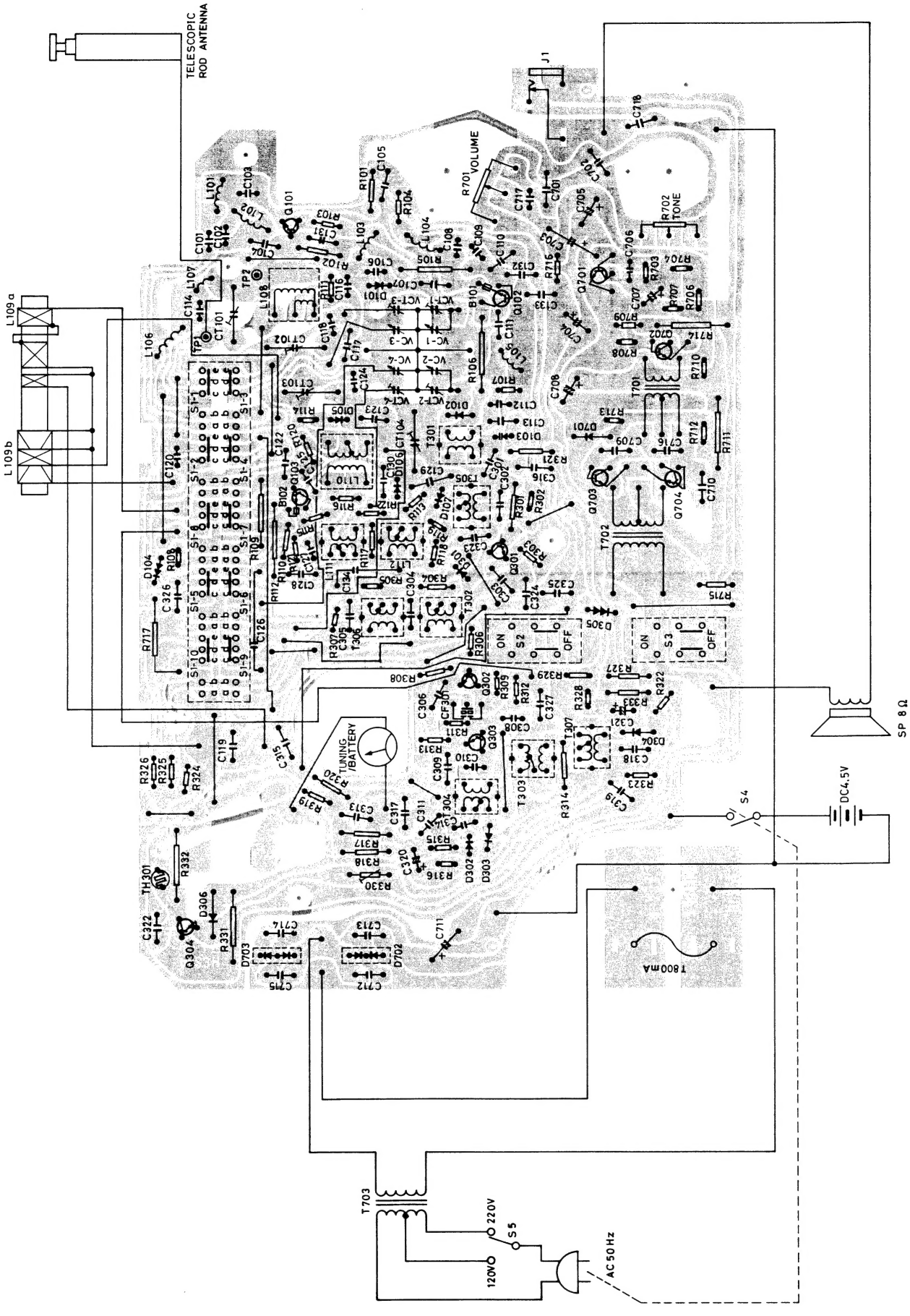
FM BAND – Band selector switch in FM position

Step	Connection of Signal Generator	Input Signal Frequency	Dial Setting of Radio	Connection of Meter or Oscilloscope	Adjust	Remarks
1	Connect Sweep Marker Generator to VCT2, Ground	10.7 MHz	Lowest End	Connect scope input cable thru network to R314, Ground	IFT T301, 302, 303	Adjust for maximum sensitivity with symmetrical curve.
2	Same	10.7 MHz	Lowest End	Connect scope input cable thru network to R319, Ground	IFT T304	Adjust for sym mertrical "S" curve.
3	Connect Signal Generator to TP1, TP2	87.0 MHz	Lowest End	Connect V.T.V.M. across speaker	Osc. coil L109	Adjust for maximum
4	Same	109.0 MHz	Highest End	Same	Osc. Trimmer VCT2	Same
5	Same	90 MHz	90 MHz	Same	RF Coil L103	Same
6	Same	106 MHz	106 MHz	Same	RF Trimmer VCT1	Same

Repeat steps 3 thru 6 to obtain maximum sensitivity.


CT101
TP1
L109
TP2
CT102
L108
L110
L111
VCT-3
CT103
T306
R330
L103
CT104
T302
VCT-1
T304
T301
T305
L112
VCT-2
L105
T303
VCT-4
T307

WIRING DIAGRAM



SCHEMATIC DIAGRAM

Q101 2SC1417H

	E	B	C
FM	4.0V	3.3V	0.77V
SW(LW/MW)	4.5V	3.8V	0.63V

Q102 2SC1417G

	E	B	C
FM	4.0V	3.3V	0.74V
SW(LW/MW)	4.5V	3.8V	0.63V

Q301 2SC1417G

	E	B	C
FM	4.2V	3.4V	0.82V
SW(LW/MW)	4.2V	3.4V	0.72V

Q302 2SC1417H

	E	B	C
FM	3.9V	3.0V	1.15V
SW(LW/MW)	3.9V	3.0V	1.15V

Q303 2SC1417H

	E	B	C
FM	4.1V	3.3V	0.76V
SW(LW/MW)	4.5V	3.8V	0.63V

Q304 HIT9014B

	E	B	C
FM	4.3V	3.6V	0.97V
SW(LW/MW)	4.3V	3.5V	0.93V

Q703 HIT5609C

	E	B	C
FM	4.5V	3.9V	0V

Q103 2SC1417G

	E	B	C
FM	4.5V	3.6V	0.73V
SW(LW/MW)	4.1V	3.4V	0.89V
LW/MW	4.0V	3.3V	0.77V

Q701 HIT9014B

	E	B	C
FM	4.5V	3.8V	2.6V

Q702 HIT9014B

	E	B	C
FM	4.4V	3.6V	0.87V

Q704 HIT5609C

	E	B	C
FM	4.5V	3.9V	0V

HIT 5609
HIT 9014

2SC1417

S1 o a FM, o b SW, o c COMMON, o d MW, o e LW

S2 ···· AFC SWITCH S3 ···· POWER SWITCH S4 ···· AC / DC SWITCH S5 ···· VOLTAGE SELECT SWITCH

Ref. No.	Part No.	Description	Q'ty
PACKINGS PARTS			
	141-6-410T-17009	Instruction Manual	1
	141-6-132T-92806	Individual Carton	1
	141-6-144T-50700	Pad	1
	141-6-144T-50800	Pad	1
	141-6-231T-25400	Polyethylen Bag, Set	1
	141-6-231T-10250	Polyethylen Bag, Power Cord	1
CABINET & CHASSIS PARTS			
	141-0-111T-37205	Cabinet Assembly	1
	141-0-126T-25909	Back Lid Assembly	1
	141-0-128T-13101	Battery Lid Assembly	1
	141-2-447T-25800	Cushion, 15 x 15 x 2 mm, for Speaker	1
	141-2-447T-00800	Cushion, for Back Lid	2
	141-0-171T-14500	Handle Assembly	1
	141-2-271T-14700	Bracket Handle	2
	141-2-163T-54900	Rotary Knob, Tuning	1
	141-2-163T-55000	Rotary Knob, Volume & Tone	2
	141-0-311T-30000	Chassis Assembly	1
	141-0-566T-04610	Tuning Shaft Assembly	1
	141-2-146T-19204	Dial Scale	1
	141-2-164T-23600	Slide Knob, Band	1
	141-2-164T-23700	Slide Knob, Power	1
	141-2-164T-23701	Slide Knob, AFC	1
	141-2-538T-09700	Drum	1
	141-2-513T-04300	Carriage	1
	141-2-511T-14500	Pointer	1
	141-2-340T-00100	Dial Rope, 0.3φ x 700 mm	1
	123-2-481R-00600	Spring Coil	1
	141-2-447T-00800	Cushion, Dial Scale mrg.	2
	141-2-447T-62000	Cushion, meter mtg.	3
	141-2-447T-00801	Cushion, Dial Scale mtg.	2
FIXING PARTS			
		Tapping Screw (WH), 3 x 8 mm	2
		Tapping Screw, 3 x 10 mm	1
		Pan Head Tapping Screw, 3 x 8 mm	1
		Pan Head Tapping Screw, 3 x 20 mm	4
		Pan Head Tapping Screw, 3 x 10 mm	2
		Pan Head Screw, 2.6 x 4 mm	2
		Hexagon Head Bolt, 2.6 x6mm	1
		Pan Head Tapping Screw, 3 x 10 mm	1
		Washer, 3 x 6.5 x 0.45 mm	1
ELECTRICAL PARTS			
	141-4-233T-34201	P.C.B. Assembly, Radio	1
	141-4-233T-39400	P.C.B. Assembly, Fuse	1
	4-300T-09000	Power Transformer	1
S4	4-235T-26971	Socket, AC/DC	1
	4-243T-77900	Power Cord	1
	4-151T-28671	Speaker, 92 mm, 8 ohm	1
	4-511T-08094	Meter, TUNING/BATTERY	1
	4-244T-80500	Rod Antenna	1
S5	4-231T-37607	Slide Switch, Voltage Select Switch	1
	123-2-472R-11100	Lug	1
	4-235T-34600	Socket, for FM ANT	1
	141-2-464T-08700	Fixer	2
R701, 702	4-222T-68200	Variable Resistor, 10K ohm, "D"	2
R330	4-222T-41073	Semi-fixed Variable Resistor	1
	4-224T-12200	Tuning Capacitor	1
	141-2-381T-04200	Bracket Fuse	2
	4-237T-00100	Terminal	2
	4-234T-01971	Fuse, 800 mAT	1

Ref. No.	Part No.	Description	Q'ty
ELECTRICAL PARTS			
CT101, 103	4-224R-01300	Trimmer	2
CT102, 104	4-224R-10800	Trimmer	2
J1	4-235R-14000	Socket, Earphone	1
S1	4-231T-66371	Slide Switch, Band	1
S2, 3	4-231T-81500	Slide Switch, Power, AFC	2
	4-237T-00100	Terminal	11
B101, 102	123-2-471R-10400	Core	2
T701	4-254T-10900	Input Transformer	1
T702	4-254T-15200	Output Transformer	1
Q101, 302, 303		Transistor, 2SC1417	3
Q102, 103, 301		Transistor, 2SC1417	3
Q304, 701, 702		Transistor, HIT9014	3
Q703, 704		Transistor, HIT5609	2
D101, 107, 301, 306		Diode, H32	4
D102, 302, 303		Diode, 1N60FM	3
D103		Diode, SD115	1
D104, 305		Varistor, VD1221M	2
D105, 106, 304		Diode, H32	3
D701		Varistor, MA26	1
D702		Diode, DS17	1
D703		Diode, DS18	1
TH301		Thermister, SDT1000	1
L101	4-265R-05010	VHF Coil	1
L102, 104, 106	4-265R-12610	VHF Coil	3
L103	4-265T-02710	VHF Coil	1
L105	4-265R-12510	VHF Coil	1
L107	4-252T-06600	Choke Coil	1
L108	4-257T-38100	Antenna Coil, SW	1
L109	4-257T-37701	Antenna Coil	1
L110	4-258T-27410	Oscillator Coil, SW	1
L111	4-258T-03511	Oscillator Coil, MW	1
L112	4-258T-26510	Oscillator Coil, LW	1
T301	4-256R-20810	IFT	1
T302	4-256R-15810	IFT	1
T303	4-256R-15110	IFT	1
T304	4-256R-02310	IFT	1
T305, 306	4-256R-00110	IFT	2
T307	4-256R-00210	IFT	1
CF301	4-256T-80400 / 4-256T-80471 / 4-256T-80472 / 4-256T-80473 / 4-256T-80474	IF Filter, FM	1
RESISTORS All resistors are Carbon P-type ±10% unless otherwise noted.			
R716		10 ohm	1
R112, 120, 711		22 ohm	3
R111, 311, 709		27 ohm	3
R106, 116		33 ohm	2
R117		39 ohm	1
R706		47 ohm	1
R103,306		56 ohm	2
R301		100 ohm	1
R118, 304, 715		120 ohm	3
R115		150 ohm	1
R314, 714		270 ohm	2
R309		330 ohm	1
R313		390 ohm	1
R303, 308		470 ohm	2
R101, 713		680 ohm	2
R712		820 ohm	1
R104, 110, 121, 315, 316, 319, 322, 332, 717		1K ohm	9

Ref. No.	Part No.	Description	Q'ty
	RESISTORS		
R107, 108		1.5K ohm	2
R114		1.8K ohm	1
R113, 324, 325, 326,		2.2K ohm	4
R329, 710		2.7K ohm	2
R119, 317, 318, 704		5.6K ohm	4
R327		8.2K ohm	1
R323		10K ohm	1
R102, 105, 312		12K ohm	3
R109		15K ohm	1
R328, 708		18K ohm	2
R302, 333, 707		47K ohm	3
R305		82K ohm	1
R320, 321, 331		100K ohm	3
R122		150K ohm	1
R307		220K ohm	1
R703		560K ohm	1
	CAPACITORS		
C308		Ceramic, 1pF, ±0.25pF, 50V	1
C107		Ceramic, 4pF, ±0.25pF, 50V	1
C113, 118		Ceramic, 5pF, ±0.25pF, 50V	2
C101, 111		Ceramic, 8pF, ±0.5pF, 50V	2
C124		Ceramic, 8pF, ±0.5pF, 50V (N470)	1
C314		Ceramic, 10pF, ±0.5pF, 50V	1
C112, 127		Ceramic, 13pF, ±5%, 50V	2
C106		Ceramic, 15pF, ±5%, 50V	1
C114		Ceramic, 18pF, ±5%, 50V	1
C102, 108		Ceramic, 20pF, ±5%, 50V	2
C103		Ceramic, 30pF, ±5%, 50V	1
C310		Ceramic, 30pF, ±5%, 50V	1
C116		Ceramic, 47pF, ±5%, 50V	1
C120		Ceramic, 75pF, ±5%, 50V	1
C129		Ceramic, 200pF, ±5%, 50V (N220)	1
C301, 717		Ceramic, 220pF, ±10%, 50V	2
C109		Ceramic, 470pF, ±10%, 50V	1
C706		Ceramic, 820pF, ±10%, 50B	1
C117, 313		Ceramic, 0.001μF, ±10%, 50V	2
C304		Ceramic, 0.0047μF, ±10%, 50V	1
C311		Ceramic, 0.0056μF, ±10%, 50V	1
C110, 119, 122, 131, 132, 133, 327, 712, 713, 714, 715, 718		Ceramic, 0.01μF, +80 −20%, 50V	12
C105, 305, 309, 316, 322		Ceramic, 0.022μF, +80 −20%, 50V	5
C134		Styrol, 250pF, ±5%, 50V	1
C126		Styrol, 340pF, ±5%, 50V	1
C123		Styrol, 0.002μF, ±5%, 50V	1
C104, 302, 318, 319, 709, 710, 716		Semi conductive, 0.01μF, ±20%, 25V	7
C303, 317, 323, 324, 325		Semi conductive, 0.022μF, ±20%, 25V	5
C306, 326		Semi conductive, 0.039μF, ±20%, 25V	2
C701, 702		Semi conductive, 0.047μF, ±20%, 25V	2
C315		Semi conductive, 0.1μF, ±20%, 12V	1
C125, 128		Mylar, 0.0047μF, ±20%, 50V	2
C130		Mylar, 0.0022μF, ±20%, 50V	1
C703, 707		Electrolytic, 1μF, 25V	2
C320, 321		Electrolytic, 4.7μF, 25V	2
C704, 705		Electrolytic, 220μF, 10V	2
C708		Electrolytic, 1000μF, 10V	1
C711		Electrolytic, 2200μF, 10V	1

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